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ANNUAL REPORT FOR FISCAL YEAR 1969

Analytical and Special Support to
Division of Technical Operations and
Division of Research and Development

A Division of Research and Development
Open-File Report (RS-03-68-04)

written by

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
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Bureau of Solid Waste Management
1970

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ABSTRACT

During Fiscal Year 1969 a total of 693 samples were submitted to the Research Services Laboratory for analysis. These samples were collected by the following Bureau of Solid Waste Management Divisions: Technical Operations, Research and Development and Demonstration Operations. The data secured from the analyses were in support of incinerator field tests, landfill studies, composting activities, and related solid waste disposal activities. A total of 4281 laboratory determinations were involved in this support project.

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INTRODUCTION

The objectives of this project are (1) to develop competence in physical and chemical analysis, including sample preparation, significant to solid waste disposal and (2) to provide analytical services as required for The Division of Technical Operations and Division of Research and Development. The Research Services Laboratory provided over 3 man years of support services for analysis of samples collected in field incinerator tests and other solid waste disposal operations.

RESULTS, DISCUSSION AND SUMMARY

A summary of analyses performed for five incinerator tests is shown on Table 1. A total of 599 test samples submitted by the Division of Technical Operations included raw refuse, incinerator residues, particulates on filters, particulate sampling train water absorbed by Silica Gel, and quench and scrubber waters. This work involved 3394 laboratory determinations, as many of the analyses were done in triplicate and samples such as quench and scrubber waters each required 12 separate parametric measurements.

A summary of other analyses performed by the Research Services Laboratory for this project is presented in Table 2. A total of 887 individual determinations were made to fulfill requested work. A list of memoranda with results of analyses is provided on page 4.

TABLE I

SUMMARY OF ANALYSES PERFORMED BY RESEARCH SERVICES LABORATORY
ON 599 INCINERATOR TEST SAMPLES SUBMITTED BY
DIVISION OF TECHNICAL OPERATIONS DURING FISCAL YEAR 1969

Sample Identification	Number of Determinations per Test Site				
	Memphis Tenn.	Center Hill	Atlanta Ga.	New Orleans La.	New Haven Conn.
Filters	30	36	46	44	12
Acetone Wash	30	35	32	36	12
Impinger Water	30	34	32	36	12
Silica Gel	15	17	16	18	6
Quench Water	145	493	899	812	
Raw Refuse	36	36	72	37	
Residues	63	36	101	127	
Misc.			5	2	1
Totals	349	687	1203	1112	43
Grand Total	3394 individual determinations				

TABLE II

SUMMARY OF OTHER ANALYSES PERFORMED BY RESEARCH SERVICES LABORATORY ON SAMPLES
SUBMITTED BY DIVISION OF TECHNICAL OPERATIONS, DIVISION OF RESEARCH AND DEVELOPMENT
AND DIVISION OF DEMONSTRATION OPERATIONS DURING FISCAL YEAR 1969

Source	Type	Number of Samples	Individual Determinations
Huntington, W. Va. Landfill	Water	11	198
Henry County, Ohio Landfill	Water	6	126
Butler County, Ohio Wells	Water	2	12
Center Hill Incinerator	Residue	2	14
Gainesville, Florida	Compost	8	59
Johnson City, Tennessee	Compost	58	264
Eimco	Sewage Sludge Compost	5	12
Atlanta and New Orleans	Incinerator	*	192
Columbus, Ohio	Soil	<u>2</u>	<u>10</u>
TOTALS		94	887

*In the course of developing a method for determination of carbon and hydrogen in solid waste material, analyses were performed on portions of 50 samples from the Atlanta, and New Orleans incinerator tests listed in Table I.

LIST OF MEMORANDA WITH RESULT OF ANALYSES

1. Analysis of Samples Taken from Incinerator at Memphis, Tennessee (Sept. 1969)
2. Center Hill Incinerator Study (Feb. 1969)
3. Atlanta, Georgia Incinerator Study (Feb. 1969)
4. New Orleans East Incinerator Study (May 1969)
5. New Haven, Conn. Incinerator Study (April 1969)
6. Water Samples from Huntington, W. V. (Jan. 1969)
7. Water Samples from Henry Co. Ohio (Jan. 1969)
8. Water Samples from Butler Co. Ohio (Sept. 1968)
9. Compost Samples from Gainesville, Fla. (Jan. 1969)
10. Carbon and Hydrogen Contents of Atlanta Incinerator Samples (Feb. 1969)
11. Carbon and Hydrogen Contents of New Orleans Incinerator Samples (April 1969)
12. Soil Samples from Columbus, Ohio (June 1969)
13. Analysis of a Variety of Samples from Weber County Incinerator, Ogden, Utah (April 1968)
14. Analysis of Samples taken during Incinerator Study in Alexandria, Virginia (May 20-24, 1968)
15. Analysis of Samples taken from New York City Apartment House Incinerators (June 1968)